Abstract
The paper aim is to present the architecture of Yugoslav pavilions built in four different World Expositions: Barcelona (1929), Paris (1937), Brussels (1958), and Montreal (1967). To clarify the architectural circumstances of great exhibitions, the paper starts with a brief overview of the history of World’s Fairs. The core of the paper starts with a section containing four case studies, each of them representing one pavilion, designed by a Yugoslav architect. An analysis of the selected case studies is made from the historical perspective with the emphasis on the architect’s point of view. National pavilions of guest countries are still prevailing in recent World Expositions. They are usually planned and designed by the architects of a certain country, since each country wants to show its own priorities on lifestyle, industry, technology, and art. The discussion shows the influence of World Exposition pavilions on contemporary architecture, and the characteristics of architecturally successful pavilions. At the end, some general architectural observations about pavilions at World Expositions are given.

Introduction
The first Great Exhibition was organized in London in 1851. Gardner Joseph Paxton designed a completely new building called Crystal Palace because of the large quantity of the built-in glass. It took only four months to construct it in the Hyde Park. Crystal Palace was made of iron elements, produced in different factories and put together at the building site. Thanks to the advanced technology of constructing (prefabricated structure) and the use of new materials (iron and glass), it became the architectural symbol of the industrial revolution and the prototype of two building types: for great exhibition buildings and for railway stations.

Following the example of Crystal Palace, large one-spatial buildings were built at all great exhibitions till the year 1900. For example, at 1889 Paris World Exhibition, they constructed 429 meters long Palais des Machines with the span of 115 meters, and 300 meters high Eiffel Tower. If there were more buildings at a particular exhibition, they were separated by industrial sectors. At 1893 Chicago Exhibition, there were Administration Building, Horticultural Building, Manufactures and Liberal Arts Building and Louis H. Sullivan Transportation Building, all with the spans around 100 meters. Large one-spatial buildings were for the first time substituted with smaller national pavilions at the 1900 World Exhibition in Paris and after that time smaller national pavilions completely ousted the bigger one-spatial buildings from great exhibitions.

Before the first Yugoslav pavilion
The Kingdom of Serbia, which had been an independent country since 1878, participated for the first time at the 1889 Paris World Exposition, then in 1893 Chicago. But the first Serbian national pavilion was built at 1900 Paris World Exposition, according to the plans of Milan Kapetanović (1859-1934) and Milorad Ruvičić (1863-1914). The pavilion represented the traditionally national architecture and patriotism. At the same time, it also showed, with some exhibited items, a kind of progress in the sphere of their economy.

Before the year 1918, Slovenia, Croatia, and Bosnia and Herzegovina were parts of Austro-Hungarian Empire, and exhibited their items together with the culture and industrial products of the whole monarchy. At the 1900 Paris exhibition, the pavilion of Austrian Empire was designed in a very classicist style by Ludwig Baumann. Slovene architect Max Fabiani designed the interior fittings for the two halls at the Austrian Empire pavilion: The Court Reception Hall and The Hall of Vienna Municipality. In a similar way four years later, for the 1904 exhibition in St. Louis, architect Jože Plečnik designed...
the furnishings for the pavilion devoted to the deceased Austro-Hungarian Empress Elizabeth.

After the World War I, the residents of Paris wanted to remain the world's decision-makers of the industrial design taste and style. Therefore, France was the host country of the first bigger exhibition after the year 1918. But exhibition wasn't officially marked as a "World Exposition", mainly because of the commercial nature given to it by the organizers. The Pavilion of the Kingdom of the Serbs, Croats and Slovenes had a similar fate as Le Corbusier's l'Esprit Nouveau pavilion suggestions, which had been rejected before. Belgrade architect Miroslav Krejček was planning an ecclesiastical pavilion, where he joined the motives from different parts and regions of the kingdom. The French committee for the exhibition didn't like it and marked the pavilion as "a synthetic architecture" which didn't satisfy the standards and demands of the exhibition program. Consequently, the Kingdom of Serbs, Croats and Slovenes ordered a new proposal from Zagreb architect and urban planner Stjepan Hribar (1889-1965), who designed the pavilion. The interior of the pavilion was designed by several authors; one of them was many-faced artist Tomislav Krizman (1882-1955). The outside part of the pavilion had a simple cubic design with a roof, an outstanding entrance made from oak and designed by Vojta Braniš, and above it a fresco painted by Jozo Kljaković [Blagojević, 2003: 92] [Galjer, 2009: 267].

Barcelona, 1929: Pavilion of the Kingdom of Serbs, Croats and Slovenes

The first international exhibition in Barcelona was organized already in 1888. Because of its great success, the organizing committee decided to prepare the exhibition of electrical engineering industry. The preparations for it started in 1907, but the World War I immediately stopped the realization of the 1917 planned exhibition. Spain finally organized two exhibitions in 1929 under one the common name "Exposición General de España", in two cities: Barcelona and Seville. The Barcelona part dealt with industry, Spanish art and sport and was called "Exposición Internacional de Barcelona". The Seville part had the exhibition of goods and products from ex-Spanish colonies and was named "Exposición Ibero – Americana".

The land, where the Barcelona exhibition was founded, was a vast area of 118 hectares on the hill of Montjuic, located on the south-western part of the old city centre. The arrangement of the area was offered to the architect Joseph Puig i Cadafalch. They built on Montjuic hill a large Palau Nacional – The National Palace, Poble Espanyol – The Spanish Village, individual national pavilions, stadium, and the Magic Fountain. For the development of modern architecture there is only one interesting and famous pavilion built in Barcelona in 1929. That is the German pavilion made by Ludwig Mies van der Rohe but pulled down and demolished immediately after the exhibition. The pavilion had been often publicized and it was decided to rebuild pavilion again in 1986.

Yugoslavia built its own national pavilion for the first time at the 1929 Barcelona International Exhibition position (figure 1 and 2). The Pavilion of the Kingdom of Serbs, Croats and Slovenes had a similar fate as Le Corbusier's l'Esprit Nouveau pavilion suggestions, which had been rejected before. Belgrade architect Miroslav Krejček was planning an ecclesiastical pavilion, where he joined the motives from different parts and regions of the kingdom. The French committee for the exhibition didn't like it and marked the pavilion as "a synthetic architecture" which didn't satisfy the standards and demands of the exhibition program. Consequently, the Kingdom of Serbs, Croats and Slovenes ordered a new proposal from Zagreb architect and urban planner Stjepan Hribar (1889-1965), who designed the pavilion. The interior of the pavilion was designed by several authors; one of them was many-faced artist Tomislav Krizman (1882-1955). The outside part of the pavilion had a simple cubic design with a roof, an outstanding entrance made from oak and designed by Vojta Braniš, and above it a fresco painted by Jozo Kljaković [Blagojević, 2003: 92] [Galjer, 2009: 267].

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the floods of the river Seine, the bureaucratically unfinished work, and the strike of building workers. The main theme of the exhibition was the arts and techniques in modern life. The official exhibition philosophy then was devoted to the progress of arts and techniques in peaceful days. But, the political situation in Europe was completely in contrast to peace. In Spain, the Civil War had already started; in some parts of Europe, ideologically more totalitarian countries were establishing: the Fascist Italy, the Nazi Germany, and Stalinist Soviet Union.

At world exhibitions, bigger, financially more successful countries usually show off their power, while smaller countries display and show something typical for them [Friebe, 1985: 152]. The architecture of pavilions at these exhibitions can be a kind of a country's propaganda and promotion. It was most obviously seen at the 1937 Exposition Internationale des Arts et Techniques dans la Vie Moderne, the last European exhibition held before the World War II. The pavilions, which aroused the most interest and doubts at the same time, were two pavilions located opposite to each other: The Soviet pavilion, designed by Boris Mihailovich Iofan and the German one by Albert Speer. They looked similar and were built like neoclassical monuments with distinctive national emphasis.

They constructed and put together more than 200 pavilions and for the architectural symbol of the exhibition, they chose the Palais de Trocadéro, built in a classicist style, not completely finished yet. From the crowd of national pavilions, there were two outstanding ones, showing already implemented modern architecture at that time: the organically shaped Finnish pavilion of Alvar Aalto and the Spanish pavilion of Jose Luis Sert and Luis Lacasa, dedicated to the human tragedy in Spanish Civil War. Junzo Sakakura planned the Japanese pavilion and tried to combine the traditional Japanese architecture with the influences of Le Corbusier and new materials.

The avant-garde German pavilion by Ludwig Mies van der Rohe and the pavilion of the Kingdom of Serbs, Croats and Slovanes were rare exceptions at 1929 Barcelona World Exposition, where nationally classicist pavilions were dominated otherwise. The Kingdom of Serbs, Croats and Slovanes presented itself in Barcelona with a pavilion which was architecturally a very modernistic building.

**Paris, 1937: Pavilion of the Kingdom of Yugoslavia**

The 1936 World Exposition, planned to be in Paris for the sixth time, was postponed for one year because of several reasons:
the first stage, the commission chose a number of works and invited their authors to improve and resubmit their proposals to the second, non-anonymous stage. In both stages the first prize went to Josip Seissel (1904-87), a Croatian architect and urban planner who was at that time also a constructivist artist, graphical designer, theatrical designer, theoretician, and later, from 1965, a professor at the Faculty of Architecture at Zagreb University.

The location of the pavilion was right beside the Trocadéro and near Aalto's Finnish pavilion. With its asymmetrical ground floor plan, a cubical façade with a mosaic painting, and an undecorated interior Seissel's Yugoslav pavilion exhibited a clear Modernist design [Slivnik, 2008: 16]. It was designed in a cubic shape with asymmetrically built triple entrance, representing three nations and emphasized with four columns. The columns were stylized, without pedestals and capitals; their line was finished with a marble torso, the work of the sculptor Toma Rosandić (1878-1959). The main entrance façade had a mosaic showing Three Girls by Milo Milunović, wearing national costumes and representing the three nations of the Kingdom [Blagojević, 2003: 86-87]. The main showcase room was meant for sculpture, and was linked on the east by a passage and two rooms. The whole of the southern wall of one room was glazed [Galjer, 2009: 280].

Josip Seissel tried to combine all three representational arts in the pavilion: painting, sculpture and architecture. The classical architectural elements strictly followed the Modernist agenda. For the design of the Yugoslav pavilion Josip Seissel received two international prizes: the Order of the Légion d'Honneur (from the French government) and the Grand Prix for Architecture.


The Belgians had a lot of experience organizing great national, international, colonial, and world exhibitions. Before the World War II they had organized three big expositions in Antwerp, three World Expositions were organized in Brussels, two in Liege, one made by Liege and Antwerp together, and one more exhibition in Gent. The Brussels EXPO in 1958 was the first first-class World Exposition after World War II. The Exposition Universelle et Internationale de Bruxelles (EXPO '58) was held in the Heysel Park and enlarged on the Laeken Park, former Royal Park. Parks are on hilly ground, partly wooded and distant from the city center. The architects avoided such locations and sites in the past, because it was more difficult to plan a building on a rough terrain with obstacles. Surprisingly enough, it had been proved on many occasions, that physical obstacles actually gave architecture a special kind of unchangeable and unique attractiveness. While planning buildings, the architects designed puddles and let trees grow freely. The Laeken Park, for that reason, was one of a more interesting location for World Expositions.

Countries showed in Brussels once again, after almost twenty years of break, the achieved level of their development in industry and technology of building. The majority of countries tried to show with their pavilions, which were frequently unusual, their specialty and distinction. There were 47 participating countries and 37 had own pavilion. Among the most interesting pavilions, there was Le Corbusier's pavilion named Philips, made in a non-geometrical shape; Edward Durell Stone planned the pavilion for the USA, which had more than 100 meters ground-plan radius. Reima Pietila designed the Finnish pavilion and Sverre Fehn the Norwegian pavilion. Both pavilions were expressing Scandinavian regional modernism. Egon Eiermann and Sep Ruf designed the shapely clarified pavilion of the Federal Republic of Germany.

At the same exposition, the Yugoslav pavilion was shapely clarified in a similar way as the German one. The Croatian architect Vjenceslav Richter (1917-2002) had to change his idea of "basis in the air", with which he had won at two-level competition. The construction of the built pavilion (figure 5 and 6) was suspended on thin steel columns. Its lightweight structure was a result of the commission's decision to avoid heavy materials and to create a light, airy atmosphere. The pavilion featured a ground floor plan and cross-section, which was designed to maximize natural light and ventilation. The interior was kept simple and functional, with a focus on showcasing Yugoslav art and culture.

![Figure 5: V. Richter: Pavilion of Federal People's Republic of Yugoslavia: ground floor plan and cross-section, Brussels, 1958. [Horvat-Pintarić; 1970: 26]](image5)

![Figure 6: V. Richter: Pavilion of Federal People's Republic of Yugoslavia, Brussels, 1958. [Horvat-Pintarić; 1970: 27]](image6)

The Universal and International Exhibition (EXPO '67) was the second global exhibition after the World War II. The Canadians organized the exhibition in honor of the hundredth anniversary of their secession from British colonies and establishing the Confederation of Canada, as a dominion under the British crown. The theme of the exhibition was "The Man and His World". For the location of the exhibition they used two depopulated islands on the river St. Lawrence. On the peninsula Cite du Havre, they built a pre-fabricated urban area called Habitat. The island Ile Sainte-Helene was divided in two parts; on its southern part, there was the USA pavilion, designed in a geodesic domed shape, by Richard Buckminster Fuller, and some other pavilions. On the island Ile Notre-Dame, they built the Federal Republic of Germany pavilion, which was designed by Frei Otto and Rolf Gutbrod in a tent-roofed form. Other pavilions built there were: the Soviet Union pavilion, whose author was the architect Mikhail Vasilevich Posokhin, the British one, planned by Sir Basil Unwin Spencer, Italian, Canadian, Czechoslovakian, and Yugoslav pavilion.

The competition for the Yugoslav pavilion and even more its results, caused strong upset to the architectural community in Yugoslavia at the time. Young Serb architect Miroslav Pešić (1937) won the first prize at two stage competition for the pavilion. The main architectural idea of the pavilion was based on a clever use of twisted prisms: seven triangular prisms were strung together in a straight line, but the fourth, sixth and seventh prisms were twisted (figure 7 and 8). Each of these prisms was made of two triangular prism elements. They were thirty meters long and sixteen meters high, although the central prism – the fourth one, also twisted – stood out by being nine meters longer than the others. The prefabricated steel structure was made in cooperation with the architect Oskar Hrabovski [Bogunović, 1967]. It was a pity that this unusual structure was covered on both sides, i.e., inside and outside, because this meant...
that visitors were unable to see it either as a whole or in detail. Windows were installed into all the lower zones. Furthermore, one vertical surface each of the first, fifth and sixth prisms was made entirely of glass, and thus provided the interior of the entire pavilion with a significant amount of light. The facade and the roof were painted white, clearly delineating the full and empty spaces of the facades. The Croatian architect Vjenceslav Richter was offered a task of designing the interior [Straus, 1991:63]. The pavilion was distinguished by its dynamic shape and effective lighting. Not everybody had agreed with that opinion about the pavilion.

Sixty states had been exhibiting in Montreal. Exhibition is known for its playful formation of voluminous buildings and the use of the newest technology. Many of the pavilions were demolished when the exhibition was closed, or changed into something else and re-built on other locations in Canada. The same story happened to the Yugoslav pavilion after having closed the exhibition. It was first taken to pieces and then put together in the town of Grand Bank, on the coast of Newfoundland in Canada, where it was opened as the Seamen's Museum in September 1971 showing the life of fishermen. The triangle formed facade reminds and looks like open sails of fishing-boats.

After the last Yugoslav pavilion
Yugoslavia didn't participate in Osaka EXPO'70, one of the biggest exhibitions in the twentieth century. The first class World Exposition was not organized until 1992. It took place in Andalusian town Seville in Spain. The Yugoslav pavilion was put up at Seville World Exposition, but as the country had already started falling apart into republics in 1991 and some of them achieve their independence in 1992. The Yugoslav pavilion was designed by Miša David (1942-2000) representing a reduced part of Yugoslavia: ex-republics of Serbia and Monte Negro.

It's interesting to consider the 2000 Hanover World Exposition, mainly because of the Croatian pavilion, designed by Branko Siladin. He had already planned a pavilion at 1992 Seville World Exposition, but was not realized because of the country breakdown. The cubic formed pavilion at Hannover in 2000 was put up in shallow water. As the financial means were limited, the pavilion was not built according to the original design, planning the glass facade and high-tech steel structure. Instead of using these two materials, they used plastic and standard steel structure. For that reason, the pavilion had never been re-built somewhere else, as it had been planned at first. The main idea of the design was that water was running all over the facade. The entrance and the exit of the pavilion were constructed over a bridge. The interior of the pavilion was also projected as water area, covered with glass marching slabs and boards, with certain items exhibited in the water. The entire pavilion had a kind of relaxing, different and attractive effect on visitors, although it wasn't completely finished.

The Architects in Charge of Designing the Yugoslav Pavilions
There are just a few architects in the world that had an opportunity to take an active part in world exhibitions. From the former Yugoslavia this number is even smaller. At the turn of the nineteenth century, Milan Kapetanović, with the help of Milorad Ruvidić, was planning the pavilion for the Kingdom of Serbia. Before the year 1918, Max Fabiani and Jože Plečnik participated in the World Exposition by designing the furniture for the interior of the Austro-Hungarian Monarchy. The pavilion designed by Stjepan Hribar, was the first one presenting and owned by Yugoslavia as an independent state. Next pavilions at the world exhibitions were planned by Dražda Brašovan and Josip Seissel. Vjenceslav Richter and Miroslav Pešić were the architects of the Yugoslav pavilions of socialist period. After the break-up of the common state, the architecture of the pavilions was planned by Miša David, and by Branko Siladin.

Something that is quite characteristic for most of the mentioned architects is the fact that they were at the beginning of their professional career when they started designing pavilions. The first pavilion of the common state was designed by Dražda Brašovan who was 42 years old in 1929, Josip Seissel was only 33 years old in 1937, Vjenceslav Richter was 41 years old when he was planning 1958 Brussels pavilion, and Miroslav Pešić was even younger, only 30 years old when he designed Yugoslav pavilion in Montreal.

Constant disagreements connected with suggestions and plans what pavilions should look like, were another common characteristic from that time. Despite the fact that a commission almost always chose designs and plans for pavilions at competitions, the professional public was never satisfied with their choice. Probably the most controversial case happened in 1964, when they invited tenders to design the Yugoslav pavilion for the Montreal World Exposition, taking two phases. We can understand that many things went wrong on backstage of the competition, just by reading an article about it, published in the professional magazine The Architecture of Urbanization 47 [Bogunović, 1967: 71]. It was obvious that the competition for that pavilion, and even more its results, upset strongly the professional architectural public in Yugoslavia. Another pavilion that was not built according to the plans chosen at the competition was the pavilion for 1992 Seville World Exposition. The awarded architect Branko Siladin, who won the first prize, couldn't realize its performance because of the Yugoslav break-up.

The Influence on Contemporary Architecture
New directions of planning the structure were introduced on these temporarily built objects by architects and engineers. They showed the newest achievements of building technology, tested the use of new materials and created trendy and architecturally innovative buildings. The structures built at world exhibitions represent innovations and cause scandals at the same time. And yet, daring to plan and put up an innovative structure means looking for new ways of development.

Among many individual pavilions dictated the architectural development from the beginning of the 20th century there are: Le Corbusier's L'Esprit Nouveau Pavilion, Melnikov's Soviet pavilion, Mies van der Rohe's German Pavilion, Aalto's Finnish Pavilion, Le Corbusier's Pavilion Philips, Otto's Pavilion of
Western Germany, the Fuji Pavilion, Calatrava's Kuwaiti Pavilion, then Netherlands, Japanese and Swiss Pavilions at the turn of the twentieth century.

The influence of Yugoslav pavilions on contemporary architecture was also substantial. In the architectural history, three out of four Yugoslav pavilions, stand out. They are: the Pavilion of the Kingdom of Serbs, Croats and Slovenes from 1929, planned by Dragića Brašovan and put up at Barcelona, the Pavilion of the Kingdom of Yugoslavia from 1937, designed by Josip Seissel and built in Paris and the Yugoslav Pavilion from 1958, put up in Brussels, according to Vjenceslav Richter's design.

For the innovative Brašovan's Pavilion, a pointed ground-plan in the shape of a star and an unusual modern facade, which reminds on Adolf Loos architecture because of the horizontal lines, are characteristic. The Pavilion was exceptionally popular among the visitors, very resounding in Yugoslav and Spanish daily newspapers, but not very well-known among the professional public. The young Croatian architect Josip Seissel tried to unite impossible things: the elementary elements of a Modern architecture with the elements of Classical architecture. His cubic pavilion had an asymmetrical entrance, pointed out with stylized pillars. Richter's Pavilion was innovative, too. It was almost all made of glass and therefore transparent. Its distinction was also functional use of the space, as the whole three-storied pavilion was passable; the construction was built without partitions, with galleries and terraces. The Pavilion was representing the architecture without unnecessary decoration and was original, which was especially seen in consolidated drains and gutters, formed as independent pillars and producing a special sound when it was raining.

But the success of a certain architectural production, its promotion as well as its propaganda is very important. Promotion and propaganda of the pavilions at world exhibitions are also important.
References